

AMENDMENTS

IN THE CLAIMS:

Please amend claim 1, and add new claim 6 as follows below.

1. (Currently amended) A method for fabricating a trench isolation structure, comprising:
forming a mask on a substrate;
forming at least one trench in the substrate by using the mask;
in the presence of the mask, selectively growing forming a first insulation
material only on the substrate in the trench to fill ~~the at least one trench in the substrate~~
~~in at least a lower part of the at least one trench in the substrate~~ with the insulation
material reducing the aspect ratio of the at least one trench in the presence of the
mask; and
applying a second insulation material over an entire surface of the structure to fill
the at least one trench in the substrate at least up to a top side of the mask.

2. (Previously presented) The method for fabricating a trench isolation structure according to Claim 1, wherein the substrate is made from silicon, the mask is made from silicon nitride and the first and second insulation materials are formed from silicon oxide.

3. (Previously presented) The method for fabricating a trench isolation structure according to Claim 1, wherein after the selective deposition a conditioning process is carried out to compact the first insulation material.

4. (Previously presented) The method for fabricating a trench isolation structure according to Claim 1, wherein the second insulation material is applied by an HDP process.

5. (Previously presented) The method for fabricating a trench isolation structure according to claim 1, wherein the second insulation material is planarized by chemical mechanical polishing on the mask.

6. (New) A method for fabricating a trench isolation structure, comprising:
forming a mask on a substrate;
forming at least one trench in the substrate by using the mask;
in the presence of the mask, selectively forming a first insulation material in a lower part of the trench to fill the at least one trench in the substrate in the lower part and not in the upper part with the insulation material for reducing the aspect ratio of the trench; and
applying a second insulation material over an entire surface of the structure to fill the at least one trench in the substrate at least up to a top side of the mask.